REMARKS

Claims 1-25 and 27-31 are currently pending in the subject application and are presently under consideration.

Favorable reconsideration of the subject patent application is respectfully requested in view of the comments and amendments herein.

I. Rejection of Claims 1-25 and 27-31 Under 35 U.S.C. §103(a)

Claims 1-25 and 27-31 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Mittal *et al.* (US 2005/0138001) in view of Agrawal *et al.* (US 5,926,820) and further in view of Ballamkonda *et al.* (US 6,775,682). Withdrawal of this rejection is requested for at least the following reasons. Mittal *et al.*, Agrawal *et al.*, and Ballamkonda *et al.* either alone or in combination, fail to teach or suggest all features of the subject claims.

> To reject claims in an application under §103, an examiner must establish a *prima facie* case of obviousness. A *prima facie* case of obviousness is established by a showing of three basic criteria. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second there must be a reasonable expectation of success. Finally, ***the prior art reference (or references when combined) must teach or suggest all the claim limitations***. *See* MPEP §706.02(j). The teaching or suggestion to make the claimed combination and the reasonable expectation of success must be found in the prior art and not based on the applicant's disclosure. *See In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). (emphasis added).

Applicants' claimed invention relates to the optimization of a distinct count query on large quantities of data. Specifically, independent claim 1 recites *a range component that determines the maximum and minimum values associated with each partition and* ***a group component that utilizes the maximum and minimum range values to determine independent partitions or partition groups, wherein independent partitions or partition groups are executed concurrently with other partitions.*** Mittal *et al.*, Agrawal *et al.* and Ballamkonda *et al.* are silent regarding such novel aspects of the claimed invention.

Mittal *et al.* relates to optimization for aggregate navigation for distinct count metrics and calculates a distinct count metric by performing a count operation on a aggregate table, but as the Examiner acknowledges, the primary reference does not teach or suggest a range component that determines the maximum and minimum values associated with each partition. Thus, to cure these deficiencies with respect to the primary document and the subject independent claim, the Examiner offers Agrawal *et al.* Agrawal *et al.* provides a method for performing maximum range *or* minimum range queries on a data cube and comprises the steps of partitioning the data cube into multi level multi dimensional blocks which are represented by a tree structure and determining the index to the maximum or minimum value for each block but it does not teach or suggest a range component that determines the maximum *and* minimum values *associated with each partition to determine independent partitions*. The Examiner acknowledges that combination of Mittal in view of Agrawal is silent with respect to a group component that utilizes the maximum and minimum range values to determine independent partitions or partition groups, wherein independent partitions or partition groups are executed concurrently with other partitions. Thus, to cure these deficiencies with respect to the Mittal and Agrawal and the subject independent claim, the Examiner attempts to utilize Ballamkonda *et al.* Ballamkonda *et al.* relates to evaluation of rollups with distinct aggregate by using sequence of sorts and partitioning by measures. Distinct aggregate functions remove duplicate records and apply the aggregate functions to the resulting records. The rollup operator aggregates data across levels specified as the keys or columns of rollup operator. However Ballamkonda *et al.* does not teach or suggest a group component that utilizes the maximum and minimum range values to determine independent partitions or partition groups, wherein independent partitions or partition groups are executed concurrently with other partitions.

On page 3 of the Office Action, the Examiner erroneously asserts that Ballamkonda *et al.* discloses ***a group component that utilizes the maximum and minimum range values to determine independent partitions or partition groups, wherein independent partitions or partition groups are executed concurrently with other partitions***. The cited document provides parallel evaluation of a rollup grouping with distinct aggregates. The fact table and the associated dimensional tables are scanned, joined, sorted and elimination of duplicate records is performed on the base table specified in the query so that less data is forwarded to the next stage. Partitioning sends rows of data from one stage to the next stage and provides computational

efficiency. Partitioning employed can be hash partitioning or range partitioning. (Column 10, lines 10-28). Partitioning that occurs between stages is on grouping keys and can utilize hash or range partitioning. (Column 10, lines 46-51). Hence Ballamkonda *et al.* provides for range partitioning but does not take into account *determining independent partitions by utilizing maximum and minimum values associated with each partition*. Hence Ballamkonda *et al.* only provides for partitioning the records according to hash partitioning or range partitioning and parallel evaluation of these records. But nowhere does Ballamkonda *et al.* teach determining ***independent partitions*** based ***on maximum and minimum values associated with each partition***, *wherein independent partitions or partition groups are executed concurrently with other partitions*. In contrast, applicant's claimed invention facilitates utilizing the maximum and minimum range values to determine independent partitions or partition groups, wherein independent partitions or partition groups are executed concurrently with other partitions.

In view of at least the foregoing, it is readily apparent that Mittal *et al.*, Agrawal *et al.* and Ballamkonda *et al.* fail to teach or suggest all aspects of the claimed invention. Accordingly, it is respectfully requested that the rejection of independent claims 1, 9, 14 and 22 (and the claims that depend there from) should be withdrawn.

CONCLUSION

The present application is believed to be in condition for allowance in view of the above comments and amendments. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063 [MSFTP606US].

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicants' undersigned representative at the telephone number below.

Respectfully submitted,

AMIN, TUROCY & CALVIN, LLP

/Himanshu S. Amin/
Himanshu S. Amin
Reg. No. 40,894

AMIN, TUROCY & CALVIN, LLP
24TH Floor, National City Center
1900 E. 9TH Street
Cleveland, Ohio 44114
Telephone (216) 696-8730
Facsimile (216) 696-8731